

Application No. 10/727,246

March 30, 2006

Amendment responsive to Office Action of December 30, 2006

Remarks

Pending Claims 22, 20, and 34 are objected to by the Examiner. Pending Claims 27, 30, 31, 37, and 38 stand rejected by the Examiner under 35 U.S.C. §112. Pending Claims 22, 24-31, 32, and 34-41 stand rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over *Armbruster* (US 5,765,884). Pending claims 23 and 33 stand rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over *Armbruster* in view of *Wu* (US 5,304,926).

In response to the Office action, Applicant has amended claims 22, 27, 28, 30, 31, 34, 37 and 38.

Requirements for Prima Facie Obviousness

The obligation of the Examiner to go forward and produce reasoning and evidence in support of obviousness under 35 U.S.C. §103 is clearly defined at M.P.E.P. §2142:

The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness.

M.P.E.P. §2143 sets out the three basic criteria that a patent examiner must satisfy to establish a prima facie case of obviousness necessary for establishing a rejection to a claim under 35 U.S.C. §103:

1. some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2. a reasonable expectation of success; and
3. the teaching or suggestion of all the claim limitations by the prior art

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reference (or references when combined).

It follows that in the absence of such a prima facie showing of obviousness under 35 U.S.C. §103 by the examiner (assuming there are no objections or other grounds for rejection), an Applicant is entitled to grant of a patent. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443 (Fed. Cir. 1992). Thus, in order to support an obviousness rejection under 35 U.S.C. §103, the Examiner is obliged to produce evidence compelling a conclusion that each of the three aforementioned basic criteria has been met.

Armbruster

Pending Claims 22, 24-31, 32, and 34-41 stand rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over *Armbruster*. Examiner contends that *Armbruster* teaches a gear tooth sensor because "*Armbruster* illustrates that data will be collected by means of the gear tooth sensor (37) when the gear completes at least one full revolution." Examiner further contends that "it would have been obvious to collect the data in a shorter time period i.e. less than one full revolution".

Examination of *Armbruster's* device reveals that it is a shaft mounted magnet and a magnet sensor. It senses the passage of the shaft mounted magnet and produces a series of pulses with one pulse per revolution. Therefore, *Armbruster* uses the express limitation of requiring a full revolution for sensing because the shaft mounted magnet passes the sensor once per revolution. One practiced in the arts of sensors or signals could certainly collect data in a shorter time period as Examiner contends. However, there is no teaching, suggestion, or motivation to do so because it would be pointless. *Armbruster's* device can only detect complete revolutions. Furthermore, collecting data for less than a complete revolution would likely result in no useful data at all. In other words, there is no probability of success because the device

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will produce numerous failures to sense shaft movement and would be unreliable.

All three legs of the test for obviousness completely fail because the inventive step from Arbruster's device that senses the magnetic field from a shaft mounted magnet to Applicant's device that senses the induced eddy currents in every gear tooth is too great.

Armbruster in view of Wu

Pending claims 23 and 33 stand rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over *Armbruster* in view of *Wu*. Examiner admits that "Arbruster fails to disclose that the gear tooth sensor comprises at least one magnet located proximate to the gear." However, Arbruster does disclose using a Hall sensor while *Wu* discloses a Hall sensor proximate to a gear.

Armbruster also teaches a shaft mounted magnet that the Hall sensor can detect once per revolution. There is no motivation or suggestion in *Armbruster* to locate the sensor near the gear. The reason, as one skilled in the art knows, is that *Armbruster's* device works best when placed further from conductive materials such as the gear. Placing a moving magnet near a conductor, such as the gear, causes eddy currents within the conductor. The eddy currents induce magnetic fields which can then be picked up as noise in the sensor. Placing Arbruster's sensor near the gear would actually be bad engineering. *Armbruster* does not teach or suggest bad engineering.

Wu, however, does teach placing a Hall sensor near a gear in order to sense the individual movement of gear teeth. *Wu* does not teach using a gear tooth sensor in a latching mechanism. Furthermore, *Wu* does not teach, suggest, or motivate the placement of a Hall sensor near a gear in a mechanism similar to *Armbruster's*. The reason is that *Armbruster's* shaft mounted magnet would create eddy currents and signal spikes that could render the Hall sensor

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useless. As such, the likelihood of success is quite low.

Armbruster in view of *Wu* also fails all three prongs of the obviousness test.

Conclusion

In view of the foregoing remarks, the Applicant submits that Claims 22-41 are patentable and are in allowable form. Accordingly, the Applicant earnestly solicits the favorable consideration of the application, and respectfully request that it be passed to issue in its present condition.

Should the Examiner discern any remaining impediment to the prompt allowance of the aforementioned claims that might be resolved or overcome with the aid of a telephone conference, he is cordially invited to call the undersigned at the telephone number set out below.

Respectfully submitted,



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